

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015646**Date Inspected:** 14-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Tony Sherwood, Mike Johnson, Scott Pursell			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A
Bridge No:	34-0006			Component:	SAS OBG		

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 5W/6W, and the following observations were made:

Bike Path Cantilever Beams

The QA Inspector randomly observed the ABF welder identified as Fred Kaddu and helper Todd Jackson begin the fillet weld threaded stud repairs. The QA Inspector noted it was previously observed and identified that the fillet weld size for the threaded studs did not meet the requirements of the contract documents. The QA Inspector randomly observed the ABF helper perform grinding tasks with a flapper wheel in an attempt to remove the majority of the previous under sized fillet welds, paint and galvanization. The QA Inspector randomly observed the ABF helper working in front of the ABF welder preparing the studs for the fillet welds to be repaired by shielded metal arc welding.

The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector Tony Sherwood on site to monitor the in process repairs. The QA Inspector noted the QC inspector set the SMAW machine and parameters to 133 Amps with 1/8" E7018 low hydrogen electrodes. The QA Inspector noted the preheat and welding parameters appeared to be in general compliance with ABF-WPS-D1.5-F1200-A. The QA Inspector randomly observed the ABF welder complete several of the studs on the QA Inspectors shift. It was observed the Bike Path Cantilever Beams identified as BK001-009 pp19 and BK-001-009 pp22 were completed on the previous shift. The QA Inspector noted the following bike path cantilevers were completed with welding and visual testing by the end of the QA Inspectors shift:

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

BK001-011 PP15
BK-001-005 PP27
BK-0001-001 PP25
BK-001-004 PP21
BK-001-018 PP33
BK-001-020 PP39
BK-001-019 PP37

The QA Inspector noted a total of 4 welds per beam were completed. The QA Inspector randomly observed the SE QC Inspector Tony Sherwood perform visual testing (VT) of the completed welds. The QA Inspector noted the welds were accepted by the QC Inspector and indicated directly on the material adjacent to the completed weld. The QA Inspector performed random visual testing (VT) and noted the size and profile of the completed fillet welds appeared to meet the general requirements of the contract documents. The QA Inspector noted no paint or coating had been re-installed on the completed welds, the QA Inspector noted the welds and exposed base material had begun to show oxidation.

The QA Inspector it was randomly observed the ABF welding operators Mike Maday and Bryce Howell were setting up the submerged arc welding (SAW) machines in preparation of performing the SAW root pass. The QA Inspector noted the shielded metal arc welding (SMAW) full length tack weld was previously deposited on both sides of the weld joint against the bevel and the steel backing bar. The QA Inspector randomly observed the ABF welding personnel had pre determined and indicated with a distinguishing marking on base material the sequencing in which the joint would be welded. The QA Inspector observed the weld was broken into 5 sections beginning in the center and moving outward toward the edges of deck plate.

5W/6W-A

Prior to the commencement of welding the QA Inspector performed a random dimensional verification of the planar misalignment previously discovered by the QA Inspector. The QA Inspector noted areas and dimensional reading did not vary from those reading previously reported. The areas locations and measurements are as follows:

A1-y=0mm-40mm 4mm-6mm misalignment (40mm in length)
A1-y=40mm-80mm 2mm-4mm misalignment (40mm in length)
A1-y=2025mm-2055mm 0mm-2mm misalignment (30mm in length)
A2-y=8890mm-8950mm 0mm-2mm misalignment (60mm in length)
A5-y=22870mm-23135mm 0mm-2mm misalignment (265mm in length)
A5-y=23460mm-23650mm 0mm-2mm misalignment (190mm in length)

The total length of the planar misalignment = 625mm or 2.3% of total length of weld joint. The QA Inspector wrote and issued an Incident Report for the above described issues with planar misalignment. The QA Inspector informed the SE QC Inspector Steve McConnell of the unacceptable planar misalignment (see summary of conversation).

A3-A1

The QA Inspector randomly observed the ABF welding operator Mike Maday begin welding the SAW root pass in the center of A3 and weld to the end of section A1. The QA Inspector randomly observed the SAW parameters and they were 570 Amps, 31.5 Volts and a travel speed of 381mm/min. The QA Inspector noted the SAW parameters appeared to be in general compliance with ABF-WPS-D1.5-4042B-1. After the root pass was completed between the center of A3-A1, the SE QC Inspectors performed MT of the root pass. The QA Inspector

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

noted no relevant indications were located at the time of the testing. After some minor grinding and blending the QA Inspector randomly observed the ABF welder continue performing the SAW fill passes. The QA Inspector randomly observed the ABF welding operators performing the SAW fill passes for the remainder of the shift.

A3-A5

The QA Inspector randomly observed the ABF welding operator Bryce Howell begin welding the SAW root pass in the center of A3 and weld to the end of section A5. The QA Inspector randomly observed the SAW parameters and they were 558 Amps, 31 Volts and a travel speed of 381mm/min. The QA Inspector noted the SAW parameters appeared to be in general compliance with ABF-WPS-D1.5-4042B-1. After the root pass was completed between the center of A3-A5, the SE QC Inspectors performed MT of the root pass. The QA Inspector noted no relevant indications were located at the time of the testing. After some minor grinding and blending the QA Inspector randomly observed the ABF welder continue performing the SAW fill passes. The QA Inspector randomly observed the ABF welding operators performing the SAW fill passes for the remainder of the shift.



Summary of Conversations:

The QA Inspector informed the QC Inspector Steve McConnell of the planar misalignment issue identified in the above report. The QA Inspector asked the QC Inspector if the weld joint was acceptable and ready to perform SAW. The QC Inspector responded by saying, the weld joint was previously accepted by QC and QA on July 8th 2010. The QC Inspector went on to inform the QA Inspector he was instructed not to perform any additional dimensional measurements after the weld joint was previously accepted. The QC Inspector informed the QA Inspector the fit up was indicated acceptable on the 8th of July not today and it won't be re-inspected. The QC Inspector reiterated those were the instructions he was given to follow by his superiors.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Inspected By: Bettencourt,Rick

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer